

INCREASING CARRIER MOBILITY IN NFET AND PFET
TRANSISTORS ON A COMMON WAFER

ABSTRACT OF THE DISCLOSURE

Enhanced carrier mobility in transistors of differing (e.g. complementary) conductivity types is achieved on a common chip by provision of two or more respective stressed layers, such as etch stop 5 layers, overlying the transistors with stress being wholly or partially relieved in portions of the respective layers, preferably by implantations with heavy ions such as germanium, arsenic, xenon, indium, antimony, silicon, nitrogen oxygen or carbon 10 in accordance with a block-out mask. The distribution and small size of individual areas of such stressed structures also prevents warping or curling of even very thin substrates.